



Filling Systems

Conception | Engineering | Service

Knowledge and skills are tradition at FRICKE

FRICKE Dosing and Filling Systems prove themselves worldwide on a daily basis since 1870. In addition to German-made, fully automatic dosing systems of the highest quality, family-run FRICKE has developed filling plants for the chemical industry for over 50 years.

Sound knowledge in the handling of chemical liquids makes FRICKE predestined for the best field-tested solutions. All liquids, whether low or high viscous are filled on FRICKE systems.

FRICKE specializes in individual system configurations and is one of the leading dosing and filling companies in the industry.

Core Competencies

**FRICKE is a family business
with exceptional performance
and extraordinary claim:**

Customer satisfaction XXL.

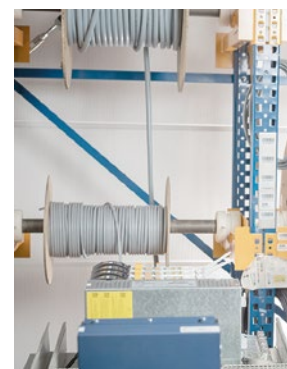




FRICKE filling systems are custom-made, developed according to needs solutions with which production processes can be made more effective. Customer benefits and satisfaction are of the highest priority.

All FRICKE systems are compact and easy to use – for highest quality and efficiency.

It goes without saying that equipment for hazardous areas complies with EU guidelines 2014/34/EU (Atex).



■ **Analysis and concept**

Specification of the optimal system for a more efficient production

■ **Engineering**

The planning and construction of your system is in the hands of experienced specialists

■ **Manufacturing**

In-house production in outstanding FRICKE quality, 100 percent monitored

■ **Commissioning**

Checking, setting up, connecting and training – all for a quick, smooth start

■ **Service**

Exemplary in support, spare parts service, service and maintenance



The demands on filling plants are as varied as your orders and as unique as your products

Exceptional performance and a wide range distinguish FRICKE. This is true not only for new installations, but also when an integration in existing production areas is required.

FRICKE offers you perfectly coordinated systems, always as an individual solution for your precise application. So you can be sure to make optimal use of resources and achieve the highest reliability.

Conception | Engineering

**FRICKE full service – holistic solution concepts
from planning to commissioning
guarantee the highest production reliability.**



EFS 11



EFS 11 with lid closer DS 400

Filling systems EFS

Space-saving and powerful

Do you wish to fill viscous or pasty liquids safely and at constant precise weights while using as little of your production area as necessary?

Do you want a fast and simple solution for filling standard containers? Then the EFS series is the right choice for you.

EFS type filling systems from FRICKE are solutions that make economic sense with their

- **compact, space-saving design**
- **easy handling**
- **short changeover time**
- **filling suitable for calibration**

they provide you with considerable competitive advantages.

The plant type is determined by the properties of your product and the type of container. You can choose from different plant versions:



EFS 61

■ Above level

For unproblematic products that are filled into open containers, such as paints, adhesives and bitumen filled into buckets and tins, plants with a closed valve design or as a container version

■ Below level

For products that foam or generate a static charge or explosive gases during filling and are filled into bung-hole containers, such as solvents and cleaning agents, chemical liquids, glazes into canisters

■ Below bung-hole

For unproblematic products that are filled into bung-hole containers, such as aromas, dispersions or oils into canisters

■ Multi

Both below level and above level filling



EFS 21

Filling systems EFS

For all types of filling

The product is supplied from higher-level batch tanks via a separate gradient or with the aid of pumps. The connection is established directly on the valve by means of product hoses.

FRICKE filling systems can be extended at any time with additional options. These options include, for example, valves in various designs, flow splitters, exhaust air housings, pump controls, swivelling

drip catchers and explosion protection as per EU Directive 2014/34/EU (Atex).

The plants are supplied with compressed air and electricity via plug connections in simple fashion and are connected directly to the product line. We pre-set them at our plant, so they can be deployed swiftly.

The plants are mobile, which means they can be flexibly deployed in the EX area.



EFS 51 above level



EFS 51 below level

The plants offer you the following:

- **Filling suitable for calibration**, above level or below level
- **Quick cleaning of the valves** (area in contact with the product is in 3 sections)
- **Fast adjustment** to different container dimensions and changing products
- **Easy for one person to operate**
- **Low space requirements**, freeing additional space in production and providing for optimal utilisation of space
- **Short-term commissioning** due to easy installation (simply connect energy and product supplies), even in Atex Zone 1 EX areas
- **Emission reduction due to integrated extraction system**
- **Weight ranges suitable for calibration**, depending on scale selection, for example:
 - 500 g – 30 kg
 - 1,000 g – 60 kg
 - 2,000 g – 150 kg
 - 5,000 g – 300 kg



AFS 22 with cap screw device and container collection tables

Filling systems EFS

Future-oriented and modular expansion available

Whether as an automatic or semi-automatic system: FRICKE machine solutions are characterized by convenient operation and a modular design.

This flexibility in terms of expansion options allows even complex filling tasks to be solved reliably, and enables connection to an MES or ERP system. Remote maintenance is another service benefit.

As the plants can be upgraded, needs-based automation is possible at any time. This allows devices such as bucket destackers, lid fitters, labelling equipment and/or a screw station to be integrated in the filling process.

This series is also available in a range of plant versions, such as above level, below level, above level (moving), below bunghole and multi (both below level and above level filling).



AFS 22 with cap screw device and accumulation roller conveyors

The plants can also be designed as dual-position fillers (duo). Two different processes are available here:

1. Both containers can be filled in parallel with a coarse and fine flow.
2. The containers are pre-filled and then topped up.

FRICKE machine properties:

- **Automatic weight adjustment and height positioning**
Time-consuming settings made by operating staff are almost completely unnecessary.

- **Additional time gained** from automatic filling and automatic transport can be used for other work processes.

- **High flexibility, short set-up times**
No powered conveyor technology on the scale. Simple position stops and lateral guides that are quick to adjust allow a rapid transition to different containers.

- **Modular design**
Plant configurations with a modular principle enable tailored and low-cost machine solutions to suit specific tasks.



AFS 25 with automatic rotary table for containers
and integrated cap screw device

Filling systems AFS

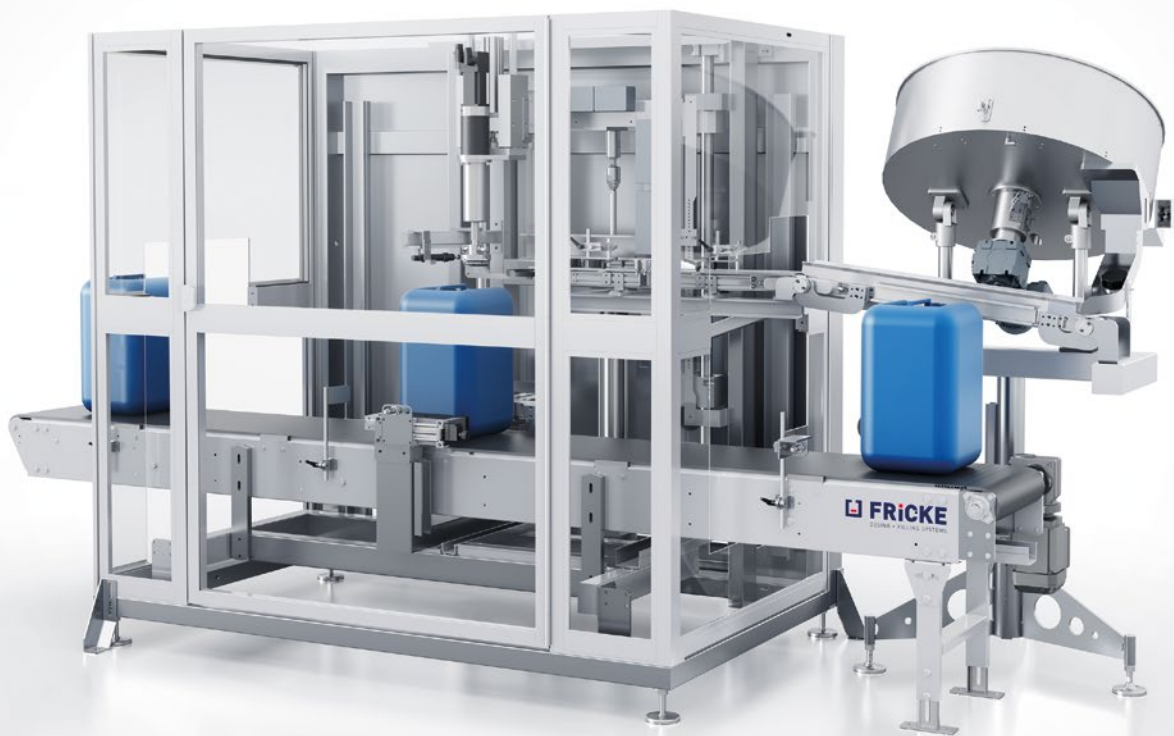
Adapt to your needs

- **Filling suitable for calibration**
In the weight range of 2.5 kg – 40 kg
- **Quick cleaning of the valves** (area in contact with the product is in 3 sections)
- **Fast adjustment** to different container dimensions and changing products
- **Easy for one person to operate**
- **Emission reduction due to integrated extraction system**

Your production process determines the design:

- Filling with our **AFS 22** and separate screw device **KS 500** with cap sorter (different caps possible)
- Compact filling with our **AFS 25** including screwing according to the rotation principle with low space requirements
- **Feed tables** in different variants
- Connection to following **labelling** and/or **palletisation**

We assist you with planning and set-up, for efficient filling and packing processes.



Cap screw device KS 500

The filling plants offer maximum operational safety, even in the EX area, and are suitable both for deployment in clean rooms and for filling heavily foaming products. Our systems can be adjusted easily and quickly, allowing for frequent changes in products and/or container sizes.

We are happy to face your challenge. Test us!

FRICKE machine properties:

- **2.5 - 40 kg canisters, up to 180 canisters/h per filling place**
- **Filling of small quantities and lots**
- **One or two filling places, depending on the required performance**

- **Complete enclosure of the filling and screwing area**

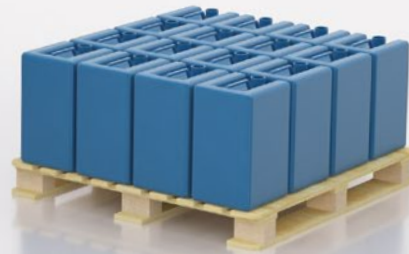
For additional process automation, FRICKE offers the following:

- **Automatic container destackers**
- **Automatic cover application devices**
- **Container-closing machines**
- **Labelling devices**
- **Palletisation devices**

If you wish, we can recommend partners and provide advice on technical integration.



FFS 21



Filling systems FFS

Economical at every step

Whether buckets, hobboscks, barrels on pallets or IBC: FRICKE has the right filling station for you – whether that is a radial swivel plant or an automatic coordinate filling system.

With a robust stainless steel design, these plants guarantee high levels of efficiency. In single container filling systems, the container is conveyed to the valve; in these plants, the exact opposite is true. This saves time, and the heavy physical labour involved in the palletisation of filled containers is not required.

FRICKE machine properties:

- **No palletisation of filled containers**
Canisters or barrels are arranged on a pallet while empty and then subsequently filled.
- **Automatic weight adjustment and height positioning**
Time-consuming settings made by operating staff are almost completely unnecessary.
- **Practical one-hand operation**
(Pallet swivel system) Due to the highly user-friendly handle, the valve can easily be positioned by hand above each container opening, and filling can be initiated by the push of a button.



FFS 21 with powered conveyor technology

All FRICKE filling systems in the FFS series offer the following:

- **Filling suitable for calibration**
Above level, below bunghole, below level or above level (moving) (just above the filling level of the product)
- **Quick cleaning of the valves** (area in contact with the product is in 3 sections)
- **Fast adjustment** to different container dimensions and changing products
- **Easy for one person to operate**
- **Emission reduction due to integrated extraction system**

- **Weight ranges suitable for calibration,** depending on scale selection, for example:
10 kg – 600 kg, 20 kg – 1,500 kg or 50 kg – 3,000 kg

If an additional standing scale is used for filling individual containers, the pallet swivel plant can be used to fill additional small containers of between 2.5 kg - 60 kg.

The plants can be supplied with one or two scales, depending on the output rate. In alternating order, one pallet scale is used for filling, while the other pallet scale is used for closing, possibly labelling, and providing new containers. This significantly increases plant availability.



FFS 20

Filling systems FFS 20 and AFS 20

Time saving with different containers

With the filling station FFS 20 “teach in” and the AFS 20 with camera, FRICKE presents further innovations that set new standards.

In a robust stainless steel design and prepared for automatic bunghole detection, these systems guarantee precise filling that can be calibrated, but, importantly, they also provide high levels of efficiency. While the container is conveyed to the valve in most machines, these

two machines do exactly the opposite! This yields enormous time savings.

Further benefits:

Filling involves almost no foam and is also suitable for critical media. The integrated level-tracking guarantees that the valve is raised correspondingly as the fill level rises. Regardless of container size and quantity, all processes can be saved and provided on call.

These plants can also be supplied with one or two scales, depending on the output rate.



AFS 20 with two filling cells

It may sound laborious and complicated, but it can be performed easily by one person in just three steps:

1. Positioning of the pallet (under the plant)
2. Documentation of the container positions via camera or "teach in"
3. Starting of the filling process

In the AFS 20 with camera version, the camera checks the containers on the pallet. It automatically detects the positions of the filling openings and checks the position of the openings for plausibility. The container opening is then automatically approached, and the container – be it a canister or a barrel – is filled.

If no camera is required, "teach in" can be used to record all positions on the pallet by means of a positioning arm; this process involves only a little extra effort. The positions are recorded by a simple push of the button on the operating handle.

Various "teach in" modes are available:

- X/Y coordinates are adopted absolutely from the stored data.
- Each position is taught in.
- Only the first and last positions (diagonal) have to be taught in. The other positions are calculated.



EFS 10

Filling systems EFS

Diverse possibilities

FRICKE machine properties:

- **Filling valve that cut threads** and does not drip
- **Quick cleaning of the valves** (area in contact with the product is in 3 sections)
- **Fast adjustment** to different container dimensions and changing products
- **Ideal solution** for small and medium filling orders
- **Easy for one person to operate**
- **Filling output** of up to 10 containers per minute
- **Low space requirements**, freeing additional space in production and providing for optimal utilisation of space
- **Fast commissioning** due to easy installation (simply connect energy and product supplies)
- **Weight ranges suitable for calibration**, depending on scale selection, for example 100 g – 15 kg



FVS 11 above-level filling



FVS 21 below-level filling valve

Filling valves FVS

Precise and flexible

FRICKE product properties:

- Suitable for **frequent product changes**
- **Quick cleaning of the valves** (area in contact with the product is in 3 sections)
- **Precise filling** of low-viscosity media such as solvents and additives, or high-viscosity (paste-like) media such as adhesives or printing inks
- **CIP cleaning**
- **Various versions and dimensions**
 - quick-change version
 - quick-clean version
 - opened pneumatically, closed pneumatically and by spring force
 - with electrolytic polishing
 - above level: Valve opening inwards, DN 10, 15, 20, 25, 35, 50
 - below level: Valve opening downwards, DN 12 (Ø A 15 mm), DN 15 (Ø A 18 mm), DN 18 (Ø A 22 mm), DN 24 (Ø A 28 mm), DN 32 (Ø A 36 mm), DN 40 (Ø A 44 mm)
 - Pre-throttle for very foamy products
 - with various connections



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